

ABSTRACT

The *F. necrophorum* gene expressing leukotoxin was sequenced and cloned. The leukotoxin open reading frame (*lktA*) is part of a multi-gene operon containing 9,726 bp, and encoding a protein containing 3,241 amino acids with an overall molecular weight of 335,956 daltons. The protein encoded by the gene was truncated into five polypeptides having overlapping regions by truncating the full length gene into five different sections and amplifying, expressing, and recovering the protein encoded by each of these sections. Additionally, a region upstream of the gene was sequenced and the polypeptide encoded by that nucleotide sequence was purified and isolated. These polypeptides along with the full length protein are then tested to determine their immunogenicity and protective immunity in comparison to the efficacy of immunization conferred by inactivated native leukotoxin in *F. necrophorum* culture supernatant.